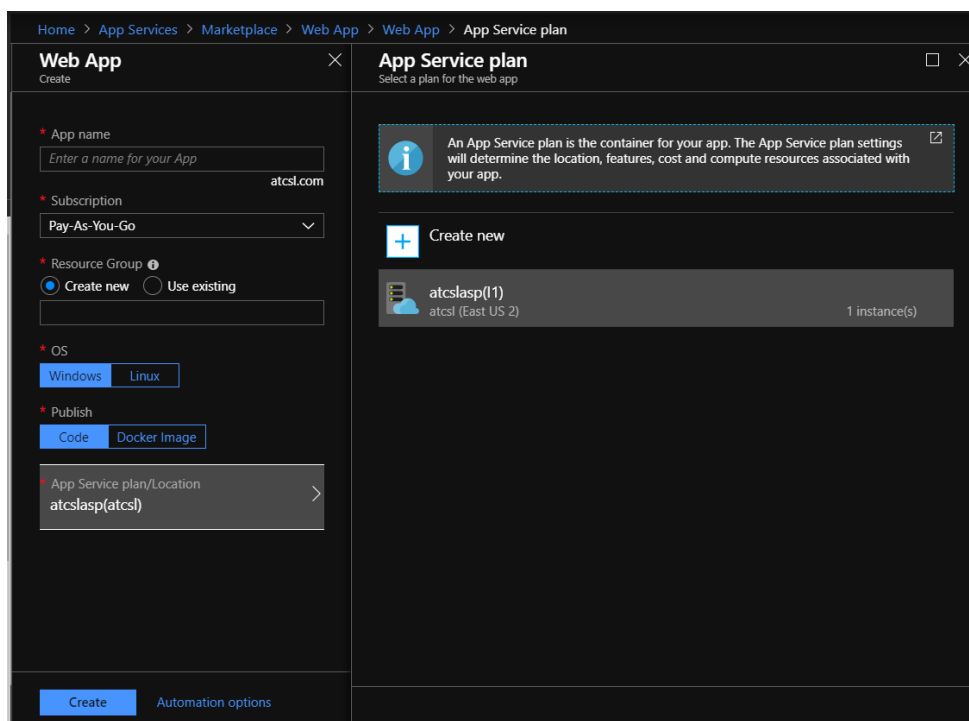
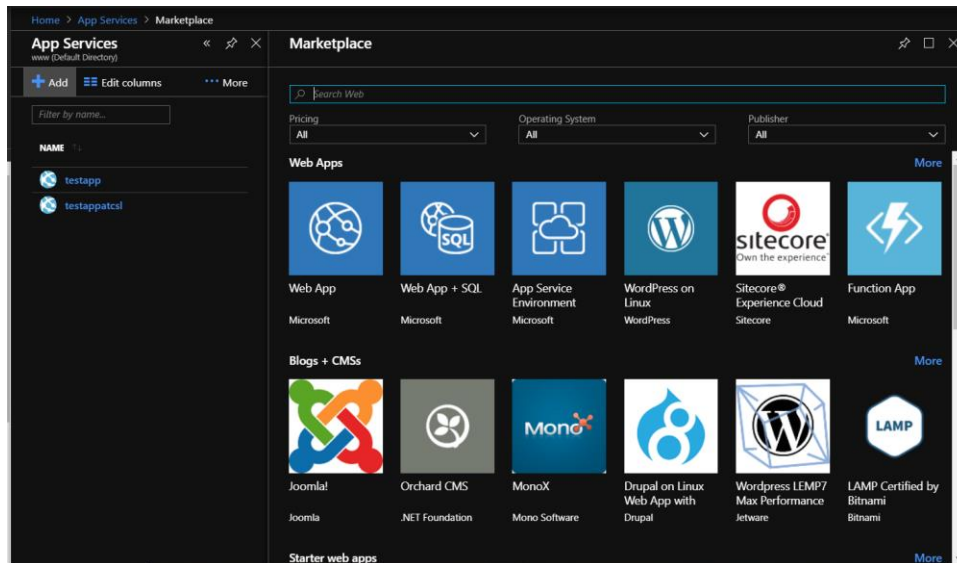


Understanding App Services, App Service Plan and ASE

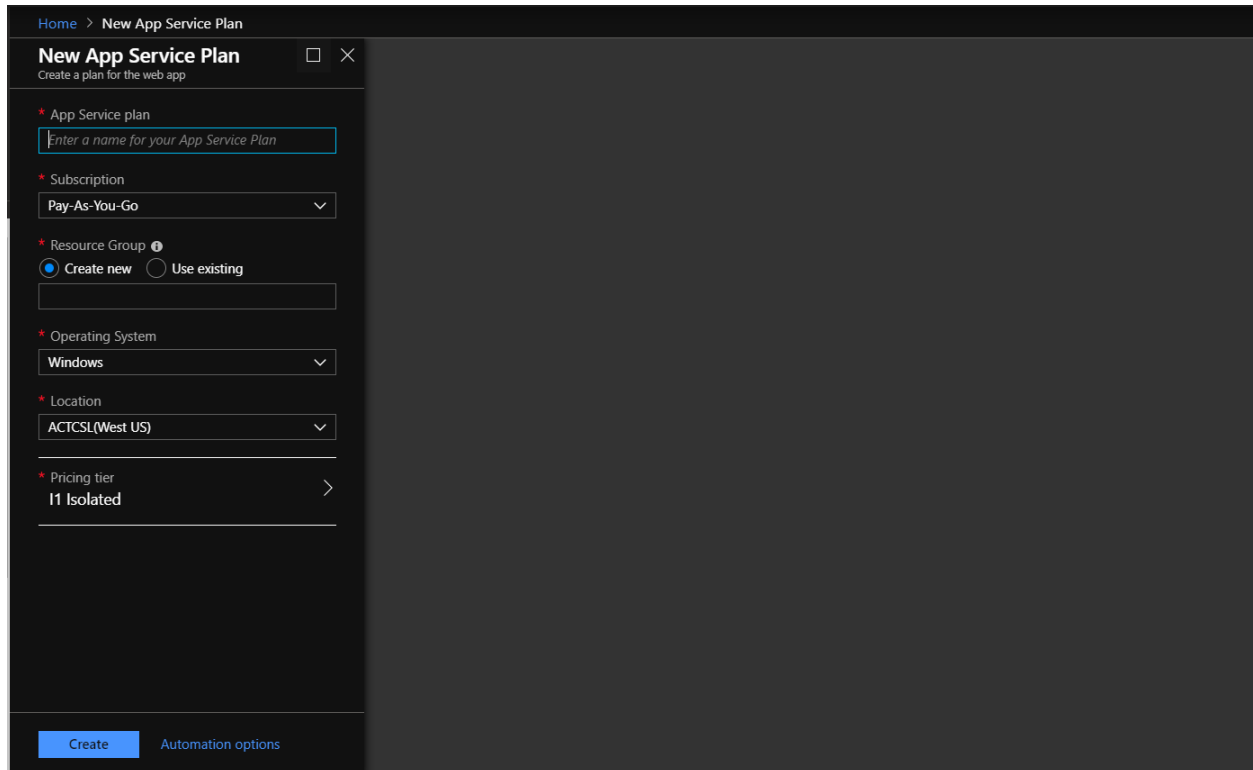
App Services

The App Services in Azure is a PAAS offering that integrates Microsoft **Azure Websites**, **Mobile Services**, and other **services** into a single **service**. It is a fully managed platform allowing you to run and scale your applications effortlessly. You can quickly build powerful web, mobile and API apps using different programming language of your choice. It offers auto-scaling and high availability, and enables automated deployments from multiple sources.



App Service Plan

App Service Plan represents the collection of physical resources for the App Service. An App Service Plan can have multiple web apps. In other words, we can have multiple web apps in an app service plan. We can consider an App Service Plan as a single compute resource, i.e., a Virtual Machine. Therefore, for the billing purposes, if we create more than one web apps in a single App Service Plan, we will be charged only once. On the other hand, there can be adverse effect on the performance of an application if the applications are using the same App Service Plan because they will be competing for the same resources.



The screenshot shows the 'New App Service Plan' form in the Azure portal. The form is titled 'New App Service Plan' with a subtitle 'Create a plan for the web app'. It includes several required fields marked with a red asterisk:

- App Service plan:** A text input field with a placeholder 'Enter a name for your App Service Plan'.
- Subscription:** A dropdown menu showing 'Pay-As-You-Go'.
- Resource Group:** Radio buttons for 'Create new' (selected) and 'Use existing', followed by an empty text input field.
- Operating System:** A dropdown menu showing 'Windows'.
- Location:** A dropdown menu showing 'ACTCSL(West US)'.
- Pricing tier:** A dropdown menu showing 'I1 Isolated'.

At the bottom of the form, there is a blue 'Create' button and a link for 'Automation options'.

Below is a high level comparison of the features as per the pricing tier for the App Service Plan.

SKUs	FREE	SHARED	BASIC	STANDARD	PREMIUM	ISOLATED*
Limits						
Apps	10	100	Unlimited	Unlimited	Unlimited	Unlimited
Disk space	1 GB	1 GB	10 GB	50 GB	250 GB	
Max instances			Up to 3	Up to 10	Up to 20	
SLA			99.95%	99.95%	99.95%	
App Deployment						
Continuous Deployment	Available	Available	Available	Available	Available	Available
Deployment Slots				Available	Available	Available
Development Tools						
Clone App					Available	Available
Site Extensions	Available	Available	Available	Available	Available	Available
Testing in Production				Available	Available	Available
Networking						
Hybrid Connections	Available	Available	Available	Available	Available	Available
VNET Integration				Available	Available	Available
Scale						
Auto-scale				Available	Available	Available
Integrated Load Balancer		Available	Available	Available	Available	Available
Traffic Manager				Available	Available	Available
Backup/Restore				Available	Available	Available
Custom Domains		Available	Available	Available	Available	Available
FTP/FTPS	Available	Available	Available	Available	Available	Available
SSL (IP/SNI)			Available	Available	Available	Available

App Services Environment (ASEv1/ASEv2)

The App Service Environment on the other hand is a deployment of the Azure App Service into your own Azure Virtual Network as per the new capabilities of ASE, and runs on a separate SKU, which is called Isolated SKU. This is the second generation of ASE generally referred to as ASEv2, whereas, the previous version was referred to as ASEv1. This enables your apps to have direct access to corporate resources over Site-to-site or ExpressRoute connections.

ASEs are isolated to running only a single customer's applications and are always deployed into a virtual network. Customers have fine-grained control over inbound and outbound application network traffic. Applications can establish high-speed secure connections over VPNs to on-premises corporate resources.

Customers can create multiple ASEs within a single Azure region or across multiple Azure regions. This flexibility makes ASEs ideal for horizontally scaling stateless application tiers in support of high RPS workloads. App Service environments (ASEs) are appropriate for application workloads that require:

- Very high scale.
- Isolation and secure network access.
- High memory utilization.

Comparison	
ASE v1	ASE v2
Resources are managed manually. This includes the Front Ends, Workers and IP based SSL	No manual intervention is required to scale out front ends and workers. All infrastructure is automatically added as customers scale out their App Service plans
Pay for each allocated vCPU, which includes both front ends and workers that are not hosting and workloads	There is a flat monthly rate for an ASE v2. There is an additional cost per App Services Plan vCPU
App Service Environment can be configured with up to fifty (50) compute resources for exclusive use by a single application	ASE v2 can host 100 App Service Plan instances. The range can span 100 instances in a single App Service plan to 100 single-instance App Service plans, and everything in between
ASE v1 can be deployed on both classic virtual network as well as Resource Manager virtual network	ASE v2 can be deployed only on the Resource Manager Virtual Network

Refer to the below URL for the ASE Pricing details along with the App Services Plan.

<https://azure.microsoft.com/en-us/pricing/details/app-service/windows/>



Pricing details

Pricing varies between regions. See the Pricing Page for more details. [Learn more](#)

Monthly ASE Fee	1150.00 USD/mo	
Isolated Worker - I1 Tier	297.60 USD/mo	
Isolated Worker - I2 Tier	595.20 USD/mo	
Isolated Worker - I3 Tier	1190.40 USD/mo	

There are two concurrent meters associated with the App Service Environment.

Monthly ASE Fee

Each App Service Environment incurs a monthly fee that covers the Front Ends, File Servers, and other infrastructure required to support up to 100 App Service plan instances. This monthly charge accrues independently of any App Service plans deployed and is prorated by the hour.

Hourly Cost

App Service plans deployed into an App Service Environment are charged per hour based on the instance count and instance type(s) selected.

Below is the pricing tier availability for the App Service Plan for ASE v2

Dev / Test
For less demanding workloads

Production
For most production workloads

Isolated
Advanced networking and scale

Recommended pricing tiers

I1 210 total ACU 3.5 GB memory Dv2-Series compute equivalent 260.40 USD/Month (Estimated)	I2 420 total ACU 7 GB memory Dv2-Series compute equivalent 520.80 USD/Month (Estimated)	I3 840 total ACU 14 GB memory Dv2-Series compute equivalent 1041.60 USD/Month (Estimated)
--	--	--

Included features

Every app hosted on this App Service plan will have access to these features:

- Single tenant system**
Take more control over the resources being used by your app.
- Isolated network**
Runs within your own virtual network.
- Private app access**
Using an App Service Environment with Internal Load Balancing (ILB).
- Scale to a large number of instances**
Up to 100 instances. More allowed upon request.
- Traffic manager**
Improve performance and availability by routing traffic between multiple instances of your app.

Included hardware

Every instance of your App Service plan will include the following hardware configuration:

- Azure Compute Units (ACU)**
Dedicated compute resources used to run applications deployed in the App Service Plan. [Learn more](#)
- Memory**
Memory per instance available to run applications deployed and running in the App Service plan.
- Storage**
1 TB disk storage shared by all apps deployed in the App Service plan.

An ASE can be either internet-facing with a public IP address or internal-facing with only an Azure internal load balancer (ILB) address.

If you deploy the ASE in a virtual network that has a VPN connection to the on-premises network, the apps in the ASE can access the on-premises resources, and this can be done using either Site-to-site VPN or an Express Route. The best example would be in case you wish to leverage the on-premises databases with the application hosted on ASE.

Summary

An App Service Environment (v2) is a fully isolated and dedicated environment for running Azure App Service apps at high scale securely, which includes Web Apps, Mobile Apps, and API's. It is the deployment of the Azure App Service into a subnet of your virtual network, and also allows your applications to interact with your corporate systems giving you more flexibility.